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RUNNING HEAD: Rethinking human-animal relations

Rethinking Human-Animal Relations: The Critical Role of Social Psychology

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Abstract

People deeply value their social bonds with companion animals, yet routinely devalue other animals, considering them mere commodities to satisfy human interests and desires. Despite the inherently social and intergroup nature of these complexities, social psychology is long overdue in integrating human-animal relations in its theoretical frameworks. The present body of work brings together social psychological research advancing our understanding of: 1) the factors shaping our perceptions and thinking about animals as social groups, 2) the complexities involved in valuing (caring) and devaluing (exploiting) animals, and 3) the implications and importance of human-animal relations for human intergroup relations. In this article, we survey the diversity of research paradigms and theoretical frameworks developed within the intergroup relations literature that are relevant, perchance critical, to the study of human-animal relations. Furthermore, we highlight how understanding and rethinking human-animal relations will eventually lead to a more comprehensive understanding of many human intergroup phenomena.

Keywords: human-animal relations; speciesism; prejudice; meat consumption; social identity; social dominance; dehumanization; cognitive dissonance

“I like pondering our relationships with animals because they tell a lot about who we are.”

—Marc Bekoff

From Pavlov’s dogs to Harlow’s Monkeys, the history of psychology is riddled with famous examples where non-human animals¹ were used for the sake of advancing our understanding of human psychology. Although psychologists and other researchers learned a great deal about humans by studying animals and from cross-disciplinary fields (e.g., ethology and comparative psychology), they increasingly came to realize that non-human animals are more complex in their thinking, feelings, and social networks than had been historically recognized (e.g., Bekoff & Pierce, 2009; de Waal, 2009, 2016). Ironically, the very insights derived from studying animals made many scholars aware of the ethical concerns with animal experiments, who now consider much of this early work to be unethical in nature (see Plous, 1996).

This development in our own discipline illustrates that how people treat and think about animals is rapidly evolving over time, fueled by knowledge that we, as humans, have learned from interacting with or observing animals. Changes in attitudes towards animals are also deeply entwined with gradual societal shifts in the expansion of our moral circles, moving towards the advancement of rights across groups (e.g., women, racial, and sexual minorities), including animal rights (Crimston, Bain, Hornsey, & Bastian, 2016; Opatow, 1993; Pinker, 2011; Singer, 1981), along with an increased awareness about the detrimental environmental impact of animal agriculture (Godfray et al., 2018). At the same time, people’s relationships with animals are complicated, pervaded with social and psychological ambiguities and inconsistencies, influenced by cultural and economic forces. Indeed, whether or not people care for an animal varies depending on the species of this animal, and is directly linked to

¹ We use “animals” to refer to non-human animals in this article and in the title of the Special Issue

how the animal is typically treated and (de)valued in society. Research shows that most people care a great deal about the welfare and interests of companion animals (e.g., cats and dogs) and some wild animals (e.g., dolphins and chimps), but much less about food or farm animals (e.g., pigs and sheep) and unappealing wild animals or animals perceived as pests (e.g., snakes and frogs) (Leite, Dhont, & Hodson, 2019; see also Bratanova, Loughnan, & Bastian, 2011; Caviola, Everett, & Faber, 2019; Sevillano & Fiske, in press). People give their companion animals names and recognize their unique personalities and complex mental capacities (e.g., Gosling, Kwan, & John, 2003), yet animals considered food are perceived as having reduced mental capacities and are stripped off their known capacities to suffer and to experience emotions (e.g., Bastian, Loughnan, Haslam, & Radke, 2012; Bilewicz, Imhoff, & Drogosz, 2010; Loughnan, Bastian, & Haslam, 2014; Loughnan & Davies, in press). Even among psychologists, ethical concerns regarding experimentation on animals seem to apply rather selectively to the use of companion animals or primates, and much less to the most commonly used lab animals such as rats and mice (e.g. Plous, 1996).

Puzzled and intrigued by observations such as these, psychologists have come to ask questions such as: “Why do we love dogs, but eat pigs, and wear cows”? and “Why is it so hard to think straight about animals”? (e.g., Herzog, 2010; Joy, 2010). Social psychology is ideally situated to address such questions. The psychological factors (e.g., norms, motivations, attitudes, and beliefs) regarding peoples’ relations with and behaviors towards animals are the focus of the articles in the present Special Issue of *Group Processes & Intergroup Relations* (GPIR). Until recently, social psychologists appear to have largely overlooked this research domain, possibly because it was considered irrelevant for the scientific understanding of human behavior and relations between ‘traditional’ groups (based on differences in race, gender, sexuality, etc.). Yet the increased research focus on reducing inequality between human groups has made one of society’s most cruel and systematic forms

of oppression ever more salient and relevant: human dominance over other animals. Both culturally and scientifically we find ourselves at a critical cross-roads.

In recent years, social psychologists have turned serious attention to the study of human-animal relations, with several landmark academic articles published (e.g., Amiot & Bastian, 2015; Bastian & Loughnan, 2017; Loughnan et al., 2014), along with articles in popular science magazines (Hodson & Costello, 2012). This topic has become a fast-growing field (see Dhont & Hodson, in press), with human-animal relations implicated in many aspects of daily life. This Special Issue of GPIR highlights the complexities and paradoxes involved when thinking about and treating animals.

Below, we survey the current state of research in this area and review key theoretical bases for understanding human-animal relations, including Social Identity Theory (Tajfel & Turner, 1979) and Self-Categorization Theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), Allport's (1954) writings on the prejudiced personality, Social Dominance Theory (Sidanius & Pratto, 1999), dehumanization research (Haslam & Loughnan, 2014), the Stereotype Content Model (Fiske, Cuddy, Glick, & Xu, 2002), and Cognitive Dissonance Theory (Festinger, 1957). We then briefly summarize the themes and linkages between this extant literature and the contributions of the research reported in the articles in this Special Issue.

Intergroup Perspectives on Human-Animal Relations

Social Identity and Self-Categorization

A prominent intergroup relations approach that is relevant to the study of human-animal relations involves Social Identity Theory (SIT, Tajfel & Turner, 1979; 1986) and Self-Categorization Theory (SCT; Turner et al., 1987). How individuals perceive and understand themselves, and how they define their identity, is shaped by their social relations, the groups they belong to, and their emotional attachment to these groups (Abrams, 2015; Abrams &

Hogg, 1990; Hogg & Abrams, 1988; Tajfel & Turner, 1979, 1986). This observation forms the cornerstone of the social identity approach to intergroup relations and has helped greatly in explaining group and intergroup behavior across a variety of domains (see e.g., Abrams, 2015; Leach et al., 2008; Postmes & Branscombe, 2010). According to SIT, people strive for positive social identities to boost or uphold their self-esteem, which can be achieved by favorably evaluating one's own group in comparison to other groups (i.e., positive differentiation). These dynamics of social categorization and comparison stimulate further ingroup-outgroup divisions, and are often considered responsible for intergroup discrimination and outgroup derogations.

As with many theories of intergroup relations, SIT and SCT have traditionally focused on the dynamics between human groups. Yet humans also build meaningful and close psychological bonds with animals, particularly with companion animals with whom people interact on a daily basis; such interactions constitute a central part of people's social lives (Amiot & Bastian, 2017; Herzog, 2010; Plous, 2003). As such, social identification presumably does not stop at the species border. Indeed, recent research shows that social interactions with animals give rise to a sense of social identification with animals, which can involve a positively valued psychological connection with and commitment to animals, termed *solidarity with animals* (Amiot & Bastian, 2017; Auger & Amiot, 2019). In a series of studies, Amiot and Bastian (2017) demonstrated that people expressing greater solidarity with animals show greater moral concern for a number of different animals and more strongly oppose practices of animal exploitation. Furthermore, the stronger the (perceived) similarity between animals and humans, the more easily people identify with animals (Amiot, Sukhanova, Greenaway, & Bastian, 2017).

Conversely, highlighting (perceived) differences between humans and animals in ways that emphasize positive and distinct characteristics of humans in comparison to animals can

facilitate desires for optimal group distinctiveness and decrease identification with animals (Amiot et al., 2017). Through this dis-identification process, perceived human-animal differences can strengthen and justify the belief that humans are inherently superior to animals, and increase support for practices of animal exploitation.

Along with an identity-based connection with animals, identification with human groups who are directly or indirectly involved in actions opposing or supporting the exploitation of animals is also important to consider. For instance, people who more strongly identify as a meat eater or the related masculine identity, tend to consume more meat and are more in favor of animal exploitation (e.g., Piazza et al., 2015; Rothgerber, 2013; Ruby, 2012). Along similar lines, those deliberately avoiding the consumption of animal products (e.g., following a plant-based diet) may consider their vegan or vegetarian social identity a focal aspect of the self (e.g., Rosenfeld & Burrow, 2017). In sum, processes of identification and dis-identification with animals or with “animal-relevant” human groups (e.g., vegans, animal advocates, or meat-eaters) are implicated in people’s attitudes and behaviors towards animals, highlighting the relevance of SIT and SCT for the study of human-animal relations.

Generalized Prejudice, Social Dominance, Authoritarianism, and Speciesism

A second intergroup approach to the study of human-relations finds its roots in classic and contemporary theorizing on generalized prejudice (Allport, 1954; Hodson & Dhont, 2015). Much of the research within this framework has highlighted the interconnected nature of different forms of prejudice towards human groups such as racism, sexism, and homophobia (e.g., Bergh, Akrami, Sidanius, & Sibley, 2016; Meeusen & Dhont, 2015), but also prejudice towards animals (Dhont, Hodson, & Leite, 2016; Plous, 2003). Specifically, the use of animals for human products and pleasures such as food, clothes, entertainment, and experiments, have been described as manifestations of speciesism. Originating from writings in philosophy (e.g., Ryder, 2006; Singer, 1975), *speciesism* can be defined as the

discriminatory treatment or evaluation of animals merely based on their species membership and entails the widespread belief in the inherent moral superiority of humans over animals (Caviola et al., 2019; Dhont, Hodson, Leite, & Salmen, in press; Plous, 1993). As such, speciesism serves as a justifying ideology for maintaining, supporting, and engaging in practices of animal exploitation (Dhont & Hodson, 2014; Plous, 1993). Furthermore, speciesism is also expressed by attributing differential moral worth to different non-human animal species, where some animal species such as dogs and cats (i.e., companion animals) are considered much higher on the moral-consideration ladder than other species such as pigs and cows (i.e., farm animals), as is the case in many Western countries (Caviola et al., 2019; Leite et al., 2019).

Intergroup relations researchers have recently addressed empirically the question of whether speciesism can be considered a type of prejudice akin to the types of prejudice traditionally studied in intergroup relations literature. For example, in a series of studies, Dhont and colleagues (2016) demonstrated that people expressing greater prejudice towards ethnic outgroups also more strongly endorse speciesist beliefs (see also Dhont, Hodson, Costello, & MacInnis, 2014). Research further confirms that speciesism shares many psychological characteristics with other types of prejudice, and is positively correlated with sexism and homophobia (Caviola et al., 2019). Such findings are consistent with Allport's (1954) seminal ideas that different types of intergroup biases are correlated, and rooted in common, relatively stable psychological factors, giving rise to the construct of generalized prejudice (see Hodson & Dhont, 2015). Indeed, common socio-ideological factors underpin both speciesism and prejudice towards human groups.

Drawing on Social Dominance Theory (Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999), the Social Dominance Human-Animal Relations Model (SD-HARM; Dhont et al., 2016) proposes that prejudiced beliefs exhibited in both human

intergroup relations and human-animal relations are rooted in an ideological preference for group-based dominance and inequality, a construct known as social dominance orientation (SDO). Research findings confirmed the key role of SDO in underpinning both speciesism and prejudice towards human groups (Caviola et al., 2019; Dhont et al., 2014, 2016). In other words, those higher in SDO not only endorse legitimizing ideologies such as racism and sexism to justify social inequality and discrimination against low-status human groups, but they also endorse speciesist beliefs to justify the exploitation and consumption of animals (Costello & Hodson, 2010; Dhont & Hodson, 2014; Hyers, 2006). In fact, generalized prejudice toward humans (e.g., racism, homophobia) would not be positively associated with speciesism if not for the common factor of SDO contributing to both.

A second ideological construct that has been investigated in this line of research is right-wing authoritarianism (RWA), reflecting the endorsement of conventional values and traditions, submission to authority, and hostility towards norm violators (Altemeyer, 1998). Driven by motivations for social cohesion and resistance to change common practices, those higher on RWA are more likely to support and engage in traditional practices, including those harmful to animals (e.g., meat consumption), and to perceive vegetarianism and veganism as a threat to culture and family traditions (Dhont & Hodson, 2014; Dhont et al., 2016; MacInnis & Hodson, 2017; Monteiro, Pfeiler, Patterson, & Milburn, 2017). Furthermore, in line with Duckitt's (2001) Dual Process Motivational Model of ideology and prejudice (Duckitt & Sibley, 2010; Sibley & Duckitt, 2008), when tested simultaneously as predictors of prejudice towards vegetarians and vegans, RWA and SDO each uniquely account for part of the variance in these criterion variables (Judge & Wilson, 2019), and show differential relations with different beliefs about animals and vegetarianism (e.g., Dhont & Hodson, 2014; Dhont et al., 2016). Until recently, both SDO and RWA, widely considered the most important individual difference predictors of prejudice (Altemeyer, 1998; Hodson, MacInnis, &

Busseri, 2017), were only employed to study human-human prejudices (e.g., sexism, racism). This recent line of research, however, clearly illustrates that these constructs dealing with dominance and hierarchy (the acceptance of inequality) or submission and conventionality (the desire to maintain the status quo) are also important to the study of human-animal relations, and moreover are critical in understanding the commonality between prejudices toward human outgroups and other species.

Taken together, much of the intergroup theorizing on generalized prejudice and ideology informs the study of attitudes and behaviors towards animals, thereby extending the scope and relevance of these theories. Such approaches highlight intersectional dimensions between different types of discriminatory and prejudicial belief systems, which do not stop at the border of the human species.

Animalistic Dehumanization

A related yet distinct line of research on dehumanization, “*the perception and/or belief that another person (or group) is relatively less human than the self (or ingroup)*” (Hodson, MacInnis, & Costello, 2014, p. 87, italics in original), has made salient the potential connection between human intergroup relations and people’s views about animals. In particular, the field has expressed strong interest in animalistic dehumanization, the tendency to deny human outgroup members the qualities that are deemed uniquely human (relative to animals) and/or to metaphorically liken outgroups to animals (i.e., see Haslam & Loughnan, 2014; Leyens et al., 2000; Loughnan, Haslam, & Kashima, 2009). Problematically, thinking about and representing outgroups in animalistic terms opens the door to downplaying rights that are generally reserved for humans or people (and denied to animals).

The fact that thinking about other humans as animal-like facilitates the mistreatment of those people tells us a great deal about how we undervalue animals relative to humans in the first place. The inferior status of animals not only serves as a justification for animal

exploitation but also facilitates the marginalization and discrimination against some human outgroups. Precisely because of the inferior status of animals, animals effectively become pejorative slurs in the attempt to attribute a similar inferior, marginal status to human outgroups, thereby making it seem acceptable not to care about them, but rather to derogate and exploit them. These implications are made clear in the Interspecies Model of Prejudice (Costello & Hodson, 2010, 2014a, 2014b; Hodson et al., 2014), which proposes a two-step process. First, beliefs that humans are different from and superior to animals is a precursor to thinking about some human outgroups as relatively more animal-like. Second, outgroup dehumanization then predicts bias (e.g., prejudice, discrimination, removal of rights) toward that human group, such as immigrants. In this manner, thinking about animals as being “below” humans fuels prejudices against human outgroups that one seeks to marginalize. Empirically, this proposition has been born out repeatedly; in studies that either measure or manipulate the human-animal divide, elevating the perceived status of animals to the level of humans reliably predicts lower dehumanization of human outgroups, with a knock-on effect of lowering prejudice toward human groups (e.g., Costello & Hodson, 2010, 2014a). Relatedly, emphasizing the similarity of animals to humans boosts moral concern for marginalized human outgroups by increasing moral concern for animals (Bastian, Costello, Loughnan, & Hodson, 2012). As with the findings discussed in the previous section, these results should make clear to intergroup researchers, even those not directly interested in animals or animal welfare, that studying human-animal relations directly informs the study of prejudices such as racism and sexism. Increasing our understanding of the fundamental links that exist between different forms of bias and oppression is a central theme of the present volume.

A related but distinct theoretical approach is offered by Terror Management Theory (TMT; Solomon, Greenberg, & Pyszczynski, 1991), which proposes that people are highly

reactive to thoughts of their own mortality and animality, and thus invest in culture and shared worldviews to mitigate death concerns. The rationale is that, when mortality is made salient, we psychologically distance ourselves and push away from animals (who are mortal and have no culture or worldviews, at least in mainstream thinking), in ways that make us feel superior to other animals (Marino & Mountain, 2015). Drawing on TMT, scholars further argued that the exploitation and killing of animals can be considered a manifestation of people's psychological coping strategy to manage their existential anxieties and awareness that humans are mortal creatures (Lifshin, Greenberg, Zestcott, & Sullivan, 2017; Marino & Mountain, 2015). Furthermore, this process can result in the derogation of outgroups, particularly to the extent that the outgroup is viewed in animalistic terms (Heflick & Goldenberg, 2014). Outgroups can not only be conceptualized as animal-like, but also can espouse worldviews divergent from those of the ingroup, and thus are doubly derogated and devalued, particularly when feeling threatened by death thoughts.

On the surface, this TMT framework might seem contrary to those listed above. After all, other researchers accentuate and have found that people can instead *identify* with animals (Amiot et al., 2017), and that *elevating* animals to the human status boosts concern for animals and instigates less dehumanization of human outgroups (Bastian et al., 2012; Hodson et al., 2014). How can we reconcile such findings with those from TMT? The key distinction is that much of the experimental TMT research effectively “lowers” humans to animals, or makes salient how humans are “just” animals and thus existentially vulnerable. Negative outcomes for others is generally the result. This finding is consistent with the Interspecies Model of Prejudice (Costello & Hodson, 2014a), which argues (and finds) that raising animals to the level of humans has positive effects, but that lowering humans to animals has negative effects on others (see Costello & Hodson, 2010). The lesson here is that human-animal *similarity* alone is not enough to emphasize in our thinking about animals; rather,

whether we think of animals as human-like, or humans as animal-like, has profound consequences for intergroup (and interspecies) relations. Virtually all of the theoretical approaches above share the notion that being likened to an animal can be threatening psychologically when applied to the self or ingroup, particularly to the extent that one undervalues animals relative to humans.

Stereotype Content Model

Another theoretical framework that has recently been applied to the study of humans' perceptions of animals is the Stereotype Content Model (SCM; Fiske et al., 2002; Wojciszke, Bazinska, & Jaworski, 1998). According to SCM, people perceive groups in terms of their warmth (*vs.* coldness) and competence (*vs.* incompetence), which forms the basis for the content of group stereotypes and social perception. The warmth dimension reflects the degree to which a group is perceived as having good or bad intentions, whereas the competence dimension reflects a group's perceived ability or power to achieve its goals. Recent work by Sevillano and Fiske (2016a, 2016b, in press) suggests that the dimensions of warmth and competence also apply to how people perceive different animal species and define the content of stereotypes about animals. More specifically, Sevillano and Fiske (2016b, in press) proposed that animal species cluster together into four generic groups of animals based on whether the animals are perceived as having good or bad intentions (high or low warmth) and as highly intelligent or unintelligent (high or low competence). Following these dimensions, the authors theoretically argue that predators such as tigers, wolves, and bears are typically seen as aggressive (low warmth) but highly intelligent (high competence), and are associated with the stereotypes of fear and admiration (i.e., threat-awe). The second cluster of animals comprises animals considered to be pests and include rodents and reptiles such as mice, rats, snakes, and lizards. These animals are perceived as harmful for humans and elicit disgust, conforming to a stereotype of contempt associated with perceptions of low warmth and low

competence. The third animal cluster includes pets and other companion or protected animals that elicit fondness such as dogs, cats, horses, and elephants. These animals are seen as friendly and highly intelligent (i.e., high warmth, high competence). Finally, the fourth cluster is referred to as prey or subordinate animals, and comprises farm and some exotic animals, including cows, pigs, rabbits, zebras and giraffes. These animals are perceived as friendly (high warmth) but also as possessing inferior cognitive abilities and skills (low competence), and do not typically elicit pronounced emotional reactions but rather indifference.

These distinct animal stereotypes not only elicit different emotional reactions but also predict different behavioral reactions towards the animals, consistent with the behaviors component of SCM (i.e., the BIAS Map; Cuddy, Fiske, & Glick, 2007). Specifically, the perceived position of the animal on the warmth dimension triggers active behaviors that can be beneficial (e.g., providing protection to dogs) or harmful (e.g., hunting or killing of wolves) depending on whether the animal is perceived as friendly or hostile, respectively. The competence dimension is associated with passive behaviors, with high competence triggering passive positive behaviors such as preserving animals, and low competence triggering passive yet harmful behaviors, such as neglecting animals. In sum, applying SCM and BIAS Map to the social perception of animals offers a theoretical framework, well-known within intergroup relations literature, to help understanding compassionate and harmful practices toward animals. Moreover, identifying the basic dimensions of social perceptions across human and non-human groups contributes to our general understanding of how people process social information and navigate the social world.

Cognitive Dissonance

When referring to practices of animal exploitation throughout the previous sections, some of the most salient examples that may spring to mind originate from the factory farming

industry. Although difficult to estimate precisely, rough numbers indicate that over 70 billion land animals are slaughtered for food every year (Bockman, in press; FAOSTAT, 2017; Faunalytics, 2018), and the estimated percentage of meat eaters in Western countries ranges between 90-98%. At the same time, most people like animals and oppose harming animals (Dhont & Hodson, forthcoming). How do people cope with these seemingly conflicting attitudes of loving yet eating (and thus harming) animals? To understand this better, research in this area has largely relied on Cognitive Dissonance Theory (Festinger, 1957; Harmon-Jones & Harmon-Jones, 2007), which proposes that people feel emotional discomfort or dissonance when realizing that they engage in behaviors that are inconsistent with their attitudes, or that they hold attitudes that are inconsistent with each other. In the case of meat-eating, dissonance may arise when people become aware of the conflict between their attitudes that animals should not be harmed, on the one hand, and their desire to eat meat on the other (Bastian & Loughnan, 2017; Rothgerber, in press). A number of studies focusing on this *meat paradox* (Loughnan, Haslam, & Bastian, 2010) reveal the remarkable flexibility of meat eaters' thinking about animals to cope with this dissonance (Bastian & Loughnan, 2017).

One such strategy involves avoiding the psychological tension experienced when eating meat, thus removing the need to reduce dissonance from the situation (Plous, 2003; Rothgerber, 2013). Consistent with this objective, meat products are routinely presented in ways that disconnect the meat from the animal, creating the impression that animals were not involved or harmed in the pursuit of satisfying human appetites (Leroy & Degreef, 2015; Plous, 2003). For instance, in markets and grocery stores animals' flesh comes in small pieces, or is highly processed, bearing little resemblance to the animal from which it originated. As such, meat is psychologically dissociated from its animal origins, circumventing consumers being reminded about the association between meat and animal

suffering. Consistent with this idea, Kunst and Hohle (2016) experimentally demonstrated that reminding people of the animal-meat association while presenting meat dishes (e.g., lamb chops) increased disgust for the dish as well as empathy toward the food-animal, which, in turn, was associated with lower willingness to eat meat.

Sometimes however, the association between meat and animal cannot be avoided. A series of studies conducted by Bastian and colleagues (2012; Bratanova et al., 2011; Loughnan et al., 2010) identified another, more active strategy that allows people to cope with the animal-meat dissonance. When experimentally triggering dissonance (e.g., expecting the forthcoming consumption of meat), people reduce dissonance by denying animals' morally relevant qualities such as their complex intellectual and emotional abilities and capacity for suffering (see also Bilewicz et al., 2011; Loughnan et al., 2014). By devaluing animals' abilities, humans lower the moral status of food animals, and avoid the moral conflict between eating meat and concerns about animal suffering. Such motivated thinking about animals and meat is also reflected in a variety of justifications that people endorse to rationalize eating meat or killing animals for food (Joy, 2010; Monteiro et al., 2017; Piazza et al., 2015; Rothgerber, 2013). For instance, Piazza and colleagues (2015) identified beliefs that meat consumption is natural, normal, necessary, and nice (i.e., the *4Ns*) as the four most prevalent justifications meat eaters use to defend meat consumption. Such rationalizations enable omnivores to continue engaging in practices that nonetheless involve animal suffering (see also Joy, 2010; Rothgerber, 2013). Taken together, by avoiding, reducing, or rationalizing the animal-meat dissonance, omnivores cope with and resolve the meat paradox, allowing them to feel comfortable with their behaviors (Bastian & Loughnan, 2017).

Preview of the Special Issue

The articles in this Special Issue build upon this pioneering body of work and further expand the importance of these theoretical frameworks, pushing the field in new directions.

Broadly speaking, the key questions concern: (1) how do people perceive and think about animals as a social outgroup (or multiple outgroups); (2) why do people love and care about animals, yet also eat and exploit them; and (3) what are the implications of our attitudes and behaviors towards animals for human intergroup relations? We next provide an overview of the studies contained in the special issue.

Previous research demonstrates that speciesism, the devaluation of animals relative to humans (and subsequent willingness to exploit them), is systematically related to a variety of prejudices toward human outgroups (see Dhont et al., 2016). In their investigation, Everett, Caviola, Savulescu, and Faber (2019) examined the extent to which lay people might be cognizant of this connection. There are several reasons to believe that lay people might not relate human-human prejudices to speciesism, in part due to cognitive dissonance processes (see above), but also considering that people seem to not necessarily perceive that human-animal similarity has much to do with prejudice toward human outgroups (Costello & Hodson, 2014b). Yet Everett and colleagues consistently and convincingly find that people intuit that speciesism is linked to human prejudices. Across three studies the authors examined how people compared targets who are racist/sexist/homophobic to targets who are speciesist. In general, speciesists were viewed negatively, as were those expressing racism etc. Moreover, targets presenting as higher in speciesism were seen to endorse general ideologies of dominance and hierarchy (i.e. higher in SDO), factors that are indeed central to explaining racism, sexism, and homophobia. Interestingly, these effects held even after statistically controlling for various demographic variables, including personal prejudice levels and political conservatism. In conjunction with past research on the SD-HARM model showing links between speciesism and prejudices against human outgroups (Dhont et al., 2016), people hold beliefs that such biases are structured in the human mind systematically and not randomly, as part of a broader ideological belief system.

Becker, Radke, and Kutlaca (2019) focus on the role of ideological constructs and specifically examine the differences in how RWA and SDO relate to reactions toward animals. Previous research has revealed, for instance, that those higher in RWA or SDO are more willing to eat meat and exploit animals because they feel threatened by vegans and vegetarians, and because they feel a sense of superiority over animals (see Dhont & Hodson, 2014). In their own work, Becker and colleagues dig deeper to explore differential reactions to animals based on the specific ideology in question, in line with the Dual Process Motivational Model of ideology and prejudice (Duckitt, 2001; Duckitt & Sibley, 2010). After all, those higher in RWA view the world as a dangerous place, whereas those higher in SDO view the world as a competitive place (Duckitt & Sibley, 2010), yet the implications of these differences had not been explored with regard to attitudes toward animals. In the first of their German samples, the authors found that RWA predicted the desire to restrict the movement of wolves and bears (wild animals), with this relation explained by greater perception that such animals are a threat to humans. In contrast, those higher in SDO were more likely to legitimize meat consumption through greater belief in human superiority over animals. This pattern nicely coincides with the different motivations underlying these specific ideologies: RWA pertaining more to safety and retaining order, and SDO to the taking of “resources” and disregard toward harming an outgroup with lower status. Their second study examines a fictitious (or “new”) animal group and brings an experimental focus by manipulating the status of this animal (in terms of being intelligent or not) and their supposed threat to humans (high or low). As predicted, Becker and colleagues found that RWA predicted restriction of this animal’s life, but particularly when the animal was presented as threatening, consistent with theorizing about RWA. In contrast, SDO predicted more expressed legitimacy of consuming the animal, and this effect was not sensitive to the status (i.e., intelligence) of the animal. Those higher in SDO feel entitled to the exploitation of others, acting out against

animal outgroups not to protect but to dominate and maintain human-animal hierarchies. Such findings have implications for designing interventions, and caution against treating all right-leaning ideologies as comparable when exploring human-animal relations and meat consumption.

People's willingness to eat meat is further investigated in the experimental research by Earle, Hodson, Dhont, and MacInnis (2019). These authors drew on previous work showing that omnivores become less willing to consume animals when reminded that meat originates from animals (Kunst & Hohle, 2016). Yet Earle and colleagues moved beyond past work by theorizing that such reminders might even predict lower prejudices toward vegetarians and vegans. In two studies the authors exposed participants to visual advertisements depicting a meat dish (control) or the same meat dish paired with its animal origin (experimental). For instance, participants were exposed to a picture of a lamb chop versus a picture of lamb chop paired with a lamb (see Kunst & Hohle, 2016). Providing meat-animal reminders significantly boosted empathy for the animal in question (Studies 1-2), induced distress at the thought of meat consumption (Studies 1-2), and induced disgust at the thought of eating meat (Study 2). Across studies, these reactions had knock-on effects, reducing participants' willingness to consume meat. The experimental reminders that animals originate from meat (*vs.* control) also indirectly predicted: (a) lower prejudice toward vegans and vegetarians, through greater empathy for food-animals, and (b) lowered perceptions that vegans and vegetarians are threatening to society, through greater meat distress. Consistent with the theme of this special issue, therefore, our thinking about animals and meat can play a role in how we think about human groups *per se* (here, vegans and vegetarians). Ignoring such links comes at a cost of better understanding prejudices and oppression more generally.

Further advancing our understanding of support for animal welfare, vegetarianism, veganism, and the reduction of meat consumption, Thomas and colleagues (2019) draw on

SIT to identify distinct psychological profiles reflecting the different ways of expressing support for farm animals. Using Latent Profile Analysis on survey data collected in a North American community sample, the authors identified three meaningful profiles of people who vary in the extent to which they consume animal products and how actively they support different types of pro-animal activism. Specifically, the largest of the three profiles is the subgroup of ‘ambivalent omnivores’, which comprises 71% of their sample and includes participants who occasionally limit meat/animal products but are not involved in any pro-animal actions. The second profile (23% of the sample), regrouping the ‘lifestyle choice activists’, includes participants who occasionally limit the consumption of animal products and are engaged in some pro-animal activism. The third and smallest profile (6% of the sample) was labelled as the ‘vegetarian radical’ subgroup representing those who strictly limit or avoid consuming animal products and support or engage in pro-animal activism, including more radical forms of activism. The results further demonstrate that some of the key psychological differences between the three subgroups concern their levels of identification with animals (i.e., solidarity with animals) and with animal-relevant groups (e.g., supporter of animal rights, vegetarians), as well as their views on the efficacy and acceptability of radical animal activism. Furthermore, an interesting observation is that dietary/lifestyle choices beneficial for animals are entangled with the degree of support for and engagement in animal activism, with no profiles being characterized, for instance, by veganism without animal activism or by animal activism without animal-friendly lifestyle/dietary choices. More generally, Thomas and colleagues (2019) highlight the value of adopting a person-centered approach (using LPA) to study animal activism, revealing that a number of identity-based factors and efficacy beliefs play a central role in people’s dietary and lifestyle choices and their political engagement in support for animals, in line with

findings from collective action research (e.g., Simon & Klandermans, 2001; van Zomeren, Postmes, & Spears, 2008).

In their paper, Hoffarth, Azevedo, and Jost (2019) address the question of why conservatives (*vs.* liberals) show stronger opposition to animal welfare and rights, more strongly endorse speciesism, and eat more meat (e.g., Dhont et al., 2016; Dhont & Hodson, 2014). Drawing on System Justification Theory (Jost, Banaji, & Nosek, 2004; Jost & Hunyady, 2005), the authors argue that conservatives are ideologically motivated to defend the societal status quo and thus endorse beliefs that justify the current economic and social systems. Because improvements to animal welfare and rights and a reduction of meat consumption go against the economic interests of the big industries of animal exploitation (e.g., the meat industry), economic system justifications are considered particularly relevant in explaining why stronger endorsement of conservative ideology is associated with less support for animal welfare, higher speciesism, and meat consumption. The authors tested these new hypotheses in convenience and nationally representative samples, totaling several thousands of U.S. participants, finding supportive evidence that economic system justification uniquely accounted for some of the association of political conservatism with animal welfare attitudes and speciesism. Along with the findings of Becker et al. (2019), Hoffarth et al. (2019) contribute to the growing body of work revealing the critical role of right-wing ideologies as an obstacle for social and economic changes needed to reduce animal suffering (see also Dhont & Hodson, 2014). In doing so, Hoffarth and colleagues (2019) expand the scope of System Justification Theory demonstrating its value for understanding human-animal relations.

As with attitudes towards human groups, attitudes towards animal groups are shaped not only by ideological views, but also by stereotypical views about animals. Sevillano and Fiske (2019) test how stereotypes about animal species influence people's reactions towards

animals. Extending their earlier correlational and theoretical work applying SCM and BIAS Map to the study of human-animal relations (Sevillano & Fiske, 2016b, in press), Sevillano and Fiske (2019) provide two experimental tests of whether manipulating warmth and competence traits elicit distinct emotional and behavioral reactions. Consistent with their theorizing, their first experiment showed that describing a fictitious animal as both warm and competent elicited fondness, whereas describing this animal as cold and incompetent elicited contempt. Both experiments also showed that experimental manipulations of the warmth and competence of animals can elicit distinct behavioral tendencies, with warm (*vs.* cold) animals eliciting active, positive inclinations and reduced tendencies to actively harm the animals, whereas the competence manipulation mainly affected passive behavioral tendencies, with more positive and less harmful behaviors elicited for competent animals. Both studies also revealed several unexpected findings, mainly related to the emotions and behavioral tendencies elicited by animals described as cold but competent and animals described as warm but incompetent. For instance, cold-competent animals elicited threat reactions but not awe reactions, whereas warm-incompetent animals did not trigger any specific emotions. Overall, the paper demonstrates how the SCM and BIAS Map can be meaningfully applied to the study of animal stereotypes, with several findings paralleling the findings observed for stereotypes of human groups, and some findings deviating from the predictions made by SCM and BIAS Map. Such findings may indicate that some of the core principles of SCM and the BIAS Map can explain the social perception of both human groups and animal species, yet some ideas from these frameworks may require modifications or extensions to be applicable in the context of human-animal relations.

The final article of the Special Issue also examines animal stereotypes, but specifically focus on a particular stereotype associated with dogs, namely that dogs can be racist. Hawkins and Vandiver (2019) investigate, for the first time, perceptions of racial

biases in dogs. Respondents from two large samples of dog caretakers rated their dogs' behavior towards White and Black people. They found that White dog caretakers perceived their dogs as demonstrating more positive behaviors (e.g., smelling, licking, wagging their tail) towards White people than towards Black people. Furthermore, both studies showed that scores of explicit and implicit racial attitudes of the dog caretakers were positively related to the reported pro-White biases in their dog's behavior. Study 2 further extends these findings by investigating the role of interracial contact of the White caretakers with Black people, showing that the more contact with Black people, the less the caretakers reported that their pet dogs displayed pro-White behavioral biases. These studies uniquely contribute to the prejudice literature by showing that humans' racial biases and interracial contact experiences are related to the racial biases they perceive in their pet dogs. Hence, these findings provide a first indication that dog caretakers may transfer their racial biases onto their pet dogs. At the same time, the results may also indicate that dog caretakers projected their racial biases and perceived dog stereotypes onto their dogs (i.e., a social projection effect, see Robbins & Krueger, 2005). As discussed by the authors, future research could rely on observational studies of dog behavior or obtain the reports of dog behavior from different sources (e.g., Gosling et al., 2003) to further investigate the psychological and social factors driving the assumed interspecies transmission of racial prejudice from dog caretakers to dogs. This research line takes an important step forward in incorporating human-companion animal relationships in the study of intergroup biases. Arguably being the animal with one of the closest social bonds to humans, dogs can learn and adopt tendencies directly and indirectly from caretakers in ways that reflect the caretakers' attitudes. Such innovative thinking expands the scope of intergroup relations research by considering the unexplored role of companion animals for better understanding the diverse manifestations of intergroup bias.

Conclusion

By its very nature, intergroup relations research has traditionally been adopting an exclusively anthropocentric focus. In researching and addressing social issues and intergroup biases, researchers have been motivated by humanist principles of valuing all human lives and respecting diversity between individuals and groups. Yet such a human-focused approach came at the cost of neglecting what we can learn from how people perceive and treat animals. The collection of articles in this Special Issue adds to the nascent, fast-growing body of work demonstrating that psychological processes involved in our thinking about animals overlap and are closely intertwined with the processes involved in human intergroup dynamics. As such, social psychology has a critical role to play in understanding and rethinking human-animal relations and in addressing the many forms of anti-social relationships where humans exploit animals. Synergies between human intergroup and human-animal relations researchers can reshape and broaden the field of social psychology in exciting new directions. We hope that this Special Issue will spark research interest into this domain and contribute to developing this area into a central topic in social psychology to correspond to the central place of animals in people's lives and society.

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References

- Abrams, D. (2015). Social identity and intergroup relations. In M. Mikulincer & P. R. Shaver (Eds.), *APA handbook of personality and social psychology: Vol. 2. Group processes* (pp. 203-228). Washington, DC: American Psychological Association.
<http://dx.doi.org/10.1037/14342-008>.
- Abrams, D. & M. A. Hogg, M. A. (1990). *Social identity theory: Constructive and critical advances*. New York: Harvester Wheatsheaf.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Altemeyer, B. (1998). The other “authoritarian personality.” In M.P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 30, pp. 47–92). New York: Academic Press.
[doi:10.1016/S0065-2601\(08\)60382-2](https://doi.org/10.1016/S0065-2601(08)60382-2)
- Amiot, C. E., & Bastian, B. (2015). Toward a psychology of human-animal relations. *Psychological Bulletin*, 141, 6–47. [doi:10.1037/a0038147](https://doi.org/10.1037/a0038147)
- Amiot, C. E., & Bastian, B. (2017). Solidarity with animals: Assessing a relevant dimension of social identification with animals, *PLoS ONE*, 2017, 2017 Jan 3;12(1):e0168184.
- Amiot, C. E., Sukhanova, K, Greenaway, K. H., & Bastian, B. (2017). Does human–animal similarity lower the need to affirm humans’ superiority relative to animals? A social psychological viewpoint. *Anthrozoos*, 30, 499-516. [doi:10.1080/08927936.2017.1335117](https://doi.org/10.1080/08927936.2017.1335117)
- Auger, B. & Amiot, C. E. (2019). Testing the roles of intergroup anxiety and inclusion of animals in the self as mechanisms that underpin the “pets as ambassadors” effect. *Anthrozoos*, 32, 5-21. [doi:10.1080/08927936.2019.1550277](https://doi.org/10.1080/08927936.2019.1550277)
- Bastian, B., Costello, K., Loughnan, S., & Hodson, G. (2012). When closing the human-animal divide expands moral concern: The importance of framing. *Social Psychological and Personality Science*, 3, 421-429.

- Bastian, B., & Loughnan, S. (2017). Resolving the meat-paradox: A motivational account of morally troublesome behavior and its maintenance. *Personality and Social Psychology Review, 21*, 278-299.
- Bastian, B., Loughnan, S., Haslam, N., & Radke, H. R. (2012). Don't mind meat? The denial of mind to animals used for human consumption. *Personality and Social Psychology Bulletin, 38*, 247–256. doi:10.1177/0146167211424291
- Becker, J.C., Radke, H.R.M., & Kutlaca, M. (2019). Stopping wolves in the wild and legitimizing meat consumption: effects of right-wing authoritarianism and social dominance on animal-related behaviors. *Group Processes & Intergroup Relations*.
- Bekoff, M., & Pierce, J. (2009). *Wild justice: The moral lives of animals*. Chicago, IL: The Chicago University Press.
- Bergh, R., Akrami, N., Sidanius, J., & Sibley, C. G. (2016). Is group membership necessary for understanding generalized prejudice? A re-evaluation of why prejudices are interrelated. *Journal of Personality and Social Psychology, 111*, 367-395. doi: 10.1037/pspi0000064
- Bilewicz, M., Imhoff, R., & Drogosz, M. (2011). The humanity of what we eat: conceptions of human uniqueness amongst vegetarians and omnivores. *European Journal of Social Psychology, 41*, 201–209.
- Bockman, J. (in press). Accomplishing the most good for animals. In K. Dhont & G. Hodson (Eds.). *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge (Taylor & Francis Group Ltd).
- Bratanova, B., Loughnan, S., & Bastian, B. (2011). The effect of categorization as food on the perceived moral standing of animals. *Appetite, 57*, 193-196.

- Caviola, L., Everett, J. A. C., & Faber, N. S. (2019). The moral standing of animals: Towards a psychology of speciesism. *Journal of Personality and Social Psychology*, 116, 1011-1029. <http://dx.doi.org/10.1037/pspp0000182>
- Costello, K., & Hodson, G. (2010). Exploring the roots of dehumanization: The role of animal-human similarity in promoting immigrant humanization. *Group Processes & Intergroup Relations*, 13, 3-22. DOI: 10.1177/1368430209347725
- Costello, K., & Hodson, G. (2014a). Explaining dehumanization among children: The interspecies model of prejudice. *British Journal of Social Psychology*, 53, 175-197. DOI:10.1111/bjso.12016
- Costello, K., & Hodson, G. (2014b). Lay beliefs about the causes of and solutions to dehumanization and prejudice: Do non-experts recognize the role of human-animal relations? *Journal of Applied Social Psychology*, 44, 278-288. doi: 10.1111/jasp.12221
- Crimston, D., Bain, P. G., Hornsey, M. J., & Bastian, B. (2016). Moral expansiveness: Examining variability in the extension of the moral world. *Journal of Personality and Social Psychology*, 111, 636–653. doi:10.1037/pspp0000086
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality & Social Psychology*, 92, 631–648.
- de Waal, F. (2009). *The age of empathy: Nature's lessons for a kinder society*. New York: Harmony Books.
- de Waal, F. (2016). *Are we smart enough to know how smart animals are?* New York: Norton.
- Dhont, K., & Hodson, G. (2014). Why do right-wing adherents engage in more animal exploitation and meat consumption? *Personality and Individual Differences*, 64, 12-17. DOI: <http://dx.doi.org/10.1016/j.paid.2014.02.002>

- Dhont, K., & Hodson, G. (in press). *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge (Taylor & Francis Group Ltd).
- Dhont, K., & Hodson, G., Costello, K., & MacInnis, C.C. (2014). Social dominance orientation connects prejudicial human-human and human-animal relations. *Personality and Individual Differences*, 61-62, 105-108. Doi:10.1016/j.paid.2013.12.020
- Dhont, K., Hodson, G., & Leite, A.C. (2016). Common ideological roots of speciesism and generalized ethnic prejudice: The social dominance human-animal relations model (SD-HARM). *European Journal of Personality*, 30, 507-522. DOI: 10.1002/per.2069
- Dhont, K, Hodson, K., Leite, A. C., & Salmen, A. (in press). The psychology of speciesism. In K. Dhont & G. Hodson (Eds.). *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge (Taylor & Francis Group Ltd).
- Duckitt, J. (2001). A dual process cognitive-motivational theory of ideology and prejudice. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 33, pp. 41–113). San Diego, CA: Academic Press.
- Duckitt, J., & Sibley, C.G. (2010). Personality, ideology, prejudice, and politics: A dual-process motivational model. *Journal of Personality*, 78, 1861-1893. DOI: 10.1111/j.1467-6494.2010.00672.x
- Earle, M., Hodson, G., Dhont, K., & MacInnis, C.C. (2019). Eating with our eyes (closed): Effects of visually associating animals with meat on anti-vegan/vegetarian attitudes and meat consumption willingness. *Group Processes & Intergroup Relations*.
- Everett, J.A.C., Caviola, L., Savulescu, J., & Faber, N. (2019). Speciesism, generalized prejudice, and perceptions of prejudiced others. *Group Processes & Intergroup Relations*.
- FAOSTAT (2017). Food and Agriculture Organization of the United Nations Statistics Division. Live animals. Retrieved from <http://www.fao.org/faostat/en/#data/QA>

- Faunalytics (2018, October 10). *Global animal slaughter statistics and charts*. Retrieved from <https://faunalytics.org/global-animal-slaughter-statistics-and-charts/>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row Peterson.
- Fiske, S.T., Cuddy, A.J.C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82, 878-902.
doi:10.1037//0022-3514.82.6.878
- Godfray, H. C. J., Aveyard, P., Garnett, T., Hall, J.W., Key, T.J., Lorimer, J., ... Jeb, S.A. (2018) Meat consumption, health, and the environment. *Science* 361, eaam5324.
- Gosling, S. D., Kwan, V. S. Y., & John, O. P. (2003). A dog's got personality: A cross-species comparative approach to evaluating personality judgments. *Journal of Personality and Social Psychology*, 85, 1161-1169.
- Harmon-Jones, E., & Harmon-Jones, C. (2007). Cognitive dissonance theory after 50 years of development. *Zeitschrift für Sozialpsychologie*, 38, 7-16.
- Haslam, N., & Loughnan, S. (2014). Dehumanization and inhumanization. *Annual Review of Psychology*, 65, 399-423.
- Hawkins, C. B. & Vandiver, A. J. (2019). Human caregivers perceive racial bias in their pet dogs. *Group Processes & Intergroup Relations*.
- Heflick, N.A., & Goldenberg, J.L. (2014). Dehumanization: A threat and solution to terror management. In P.G. Bain, J. Vaes, & J.-Ph. Leyens (Eds.), *Humanness and dehumanization* (pp. 111-126). London: Psychology Press.
- Herzog, H. (2010). *Some we love, some we hate, some we eat: Why it's so hard to think straight about animals*. New York, US: HarperCollins.
- Hodson, G., & Costello, K. (2012, Dec 15). The human cost of devaluing animals. *New Scientist*, 2895, 34-35.

- Hodson, G., & Dhont, K. (2015). The person-based nature of prejudice: Individual difference predictors of intergroup negativity. *European Review of Social Psychology*, 26, 1-42.
DOI: 10.1080/10463283.2015.1070018
- Hodson, G., MacInnis, C.C., & Busseri, M.A. (2017). Bowing and kicking: Rediscovering the fundamental link between generalized authoritarianism and generalized prejudice. *Personality and Individual Differences*, 104, 243-251. doi:10.1016/j.paid.2016.08.018
- Hodson, G. & MacInnis, C.C., & Costello, K. (2014). (Over)Valuing “humanness” as an aggravator of intergroup prejudices and discrimination. In P.G. Bain, J. Vaes, & J.-Ph. Leyens (Eds.), *Humanness and dehumanization* (pp. 86-110). London: Psychology Press.
- Hoffarth, M. R., Azevedo, F., & Jost, J. T. (2019). Political conservatism and the exploitation of non-human animals: An application of System Justification Theory. *Group Processes and Intergroup Relations*
- Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.
- Hyers, L. (2006). Myths used to legitimize the exploitation of animals: An application of social dominance theory. *Anthrozoos*, 19, 194–210. doi:10.2752/089279306785415538
- Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, 25, 881-919.
- Jost, J.T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science*, 14, 260-265.
- Joy, M. (2010). *Why we love dogs, eat pigs, and wear cows: an introduction to carnism*. San Francisco, CA: Conari Press.
- Judge, M., & Wilson, M.S. (2019) A dual-process model of attitudes toward vegetarians and vegans. *European Journal of Social Psychology*, 49, 169-178. doi:10.1002/ejsp.2386

- Kunst, J. R., & Hohle, S. M. (2016). Meat eaters by dissociation: How we present, prepare and talk about meat increases willingness to eat meat by reducing empathy and disgust. *Appetite*, 105, 758-774.
- Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L. W., Pennekamp, S. F., Doosje, B.,... Spears, R. (2008). Group-level self-definition and self-investment: A hierarchical multicomponent model of ingroup identification. *Journal of Personality and Social Psychology*, 95, 144 –165. doi:10.1037/0022-3514.95.1.144
- Leite, A., C. Dhont, K., & Hodson, G. (2019). Longitudinal effects of human supremacy beliefs and vegetarianism threat on moral exclusion (vs. inclusion) of animals. *European Journal of Social Psychology*, 49, 179-189. doi:10.1002/ejsp.2497
- Leroy, F., & Degreef, F. (2015). Convenient meat and meat products. Societal and technological issues. *Appetite*, 94, 40–46
- Leyens, J.-P., Paladino, P. M., Rodriguez-Torres, R., Vaes, J., Demoulin, S., Rodriguez-Perez, A., & Gaunt, R. (2000). The emotional side of prejudice: The attribution of secondary emotions to ingroups and outgroups. *Personality and Social Psychology Review*, 4, 186–197. doi:10.1207/S15327957PSPR0402_06
- Lifshin, U., Greenberg J., Zestcott, C. A., & Sullivan, D. (2017). The evil animal: A terror management theory perspective on the human tendency to kill animals. *Personality and Social Psychology Bulletin*, 43, 743–757. doi:10.1177/0146167217697092.
- Loughnan, S., Bastian, B., & Haslam, N. (2014). The psychology of eating animals. *Current Directions in Psychological Science*, 32, 104-108. DOI: 10.1177/0963721414525781
- Loughnan S., & Davies, T. (in press). The meat paradox. In K. Dhont & G. Hodson (Eds.). *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge (Taylor & Francis Group Ltd).

- Loughnan, S., Haslam, N., & Bastian, B. (2010). The role of meat consumption in the denial of moral status and mind to meat animals. *Appetite*, 55, 156–159.
doi:10.1016/j.appet.2010.05.043
- Loughnan, S., Haslam, N., & Kashima, Y. (2009). Understanding the relationship between attribute-based and metaphor-based dehumanization. *Group Processes & Intergroup Relations*, 12, 747-762. doi: 10.1177/1368430209347726
- MacInnis, C.C., & Hodson, G. (2017). It ain't easy eating greens: Evidence of bias toward vegetarians and vegans from both source and target. *Group Processes & Intergroup Relations*, 20, 721-744. doi:10.1177/1368430215618253
- Marino, L., & Mountain, M. (2015). Denial of death and the relationship between humans and other animals. *Anthrozoös*, 28, 5–21. doi:10.2752/089279315X14129350721777
- Meeusen, C., & Dhont, K. (2015). Parent-child similarity in common and specific components of prejudice: The role of ideological attitudes and political discussion. *European Journal of Personality*, 29, 585-598. doi: 10.1002/per.2011
- Monteiro C.A., Pfeiler T.M., Patterson M.D. & Milburn M.A. (2017). The carnism inventory: Measuring the ideology of eating animals. *Appetite*, 113, 51-62.
doi:10.1016/j.appet.2017.02.011.
- Opatow, S. (1993). Animals and the scope of justice. *Journal of Social Issues*, 49, 71–85.
doi:10.1111/j.1540-4560.1993.tb00909.x
- Piazza, J., Ruby, M.B., Loughnan, S., Luong, M., Kulik, J., Watkins, H.M., & Seigerman, M. (2015). Rationalizing meat consumption: The 4Ns. *Appetite*, 91, 114-128.
doi:10.1016/j.appet.2015.04.011
- Pinker, S. (2011). *The better angels of our nature: Why violence has declined*. New York, NY: Viking.

- Plous, S. (1993). Psychological mechanisms in the human use of animals. *Journal of Social Issues*, 49, 11-52.
- Plous, S. (1996). Attitudes toward the use of animals in psychological research and education: Results from a national survey of psychologists. *American Psychologist*, 51, 1167-1180.
- Plous, S. (2003). Is there such a thing as prejudice towards animals? In S. Plous (Ed.), *Understanding prejudice and discrimination* (pp. 509-528). Boston, MA: McGraw-Hill.
- Postmes, T., & Branscombe, N. R. (2010). Sources of social identity. In T. Postmes, & N. R. Branscombe (Eds.), *Rediscovering social identity: Core sources*. (pp. 1-12). New York: Psychology Press.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, 67, 741-763. doi:10.1037/0022-3514.67.4.741
- Robbins, J. M., & Krueger, J. I. (2005). Social projection to ingroups and outgroups: A review and meta-analysis. *Personality and Social Psychology Review*, 9(1), 32-47.
doi:10.1207/s15327957pspr0901_3
- Rosenfeld, D. L., & Burrow, A. L. (2017). The unified model of vegetarian identity: A conceptual framework for understanding plant-based food choices. *Appetite*, 112, 78-95.
- Rothgerber, H. (2013). Real men don't eat (vegetable) quiche: Masculinity and the justification of meat consumption. *The Psychology of Men and Masculinity*, 14, 363-375.
- Rothgerber, H. (in press). How we love and hurt animals: Considering cognitive dissonance in young meat eaters. *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge (Taylor & Francis Group Ltd).
- Ruby, M. B. (2012). Vegetarianism: A blossoming field of study. *Appetite*, 58, 141-150.

- Ryder, R. D. (2006). Speciesism in the laboratory. In P. Singer (Ed.), *In defense of animals: The second wave* (pp. 87-103). Malden, MA: Blackwell Publishing.
- Sevillano, V., & Fiske, S. T. (2016a). Animals as social objects: Groups, stereotypes, and intergroup threats. *European Psychologist, 21*, 206–217. doi: 10.1027/1016-9040/a000268
- Sevillano, V., & Fiske, S. T. (2016b). Warmth and competence in animals. *Journal of Applied Social Psychology, 46*, 276–293. doi: 10.1111/jasp.1236
- Sevillano, V. & Fiske, S. T. (2019). Stereotypes, emotions, and behaviors associated with animals: A causal test of the Stereotype Content Model and BIAS Map. *Group Processes & Intergroup Relations*.
- Sevillano, V. & Fiske, S. T. (in press). Animals as social groups: An intergroup relations analysis of human-animal conflicts. In K. Dhont & G. Hodson (Eds.), *Why we love and exploit animals: Bridging insights from academia and advocacy*. Oxford: Routledge.
- Sibley, C. G., & Duckitt, J. (2008). Personality and prejudice: A meta-analysis and theoretical review. *Personality and Social Psychology Review, 12*, 248–279.
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.
- Simon, B., & Klandermans, B. (2001). Politicized collective identity: A social–psychological analysis. *American Psychologist, 56*, 319–331. doi: 10.1037/0003-066X.56.4.319
- Singer, P. (1975). *Animal liberation*. New York: HarperCollins.
- Singer, P. (1981). *The expanding circle: Ethics and sociobiology*. New York, NY: Farrar, Straus and Giroux.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). A terror management theory of social behavior: The psychological functions of self esteem and cultural worldviews. *Advances*

in Experimental Social Psychology, 24, 93–159. [http://dx.doi.org/10.1016/S0065-2601\(08\)60328-7](http://dx.doi.org/10.1016/S0065-2601(08)60328-7)

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In S. Worchel & W. G. Austin (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago, IL: Nelson-Hall.

Thomas, E.F., Bury, S.M., Louis, W.R., Amiot, C.E., Molenberghs, P., Crane, M.F., & Decety, J. (2019). Vegetarian, vegan, activist, radical: Using latent profile analysis to examine different forms of support for animal welfare. *Group Processes & Intergroup Relations*.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Cambridge, MA, US: Basil Blackwell.

van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin*, 134, 504-535. doi: 10.1037/0033-2909.134.4.504

Wojciszke, B., Bazinska, R., & Jaworski, M. (1998). On the dominance of moral categories in impression formation. *Personality and Social Psychology Bulletin*, 24, 1245–1257. doi: 10.1177/01461672982412001